What is claimed is:

1.   A method for automatically providing enhanced and secure access to a group of users initiated by a non-technically trained user on a computer network without the intervention of information systems personnel comprising the steps of:

     1)   receiving a request from the a user to establish the group of users;

     2)   configuring a network infrastructure to support the group;

     3)   providing a group identifier;

     4)   allowing users to join the group according to the group identifier;

     5)   further configuring the network infrastructure to support the joining users; and

     6)   dissolving the group based on predetermined rules.

2.   The method of claim 1 wherein the group of users is composed of one or more than one users.

3.   The method of claim 1 wherein the network infrastructure includes a physical local area network.

4.   The method of claim 1 wherein the step of configuring a network includes the step of establishing a virtual local area network on a physical local area network.

5.   The method of claim 1 wherein the step of configuring a network infrastructure includes the step of configuring switches that are IEEE802.1Q compliant.

6.   The method of claim 5 wherein the step of configuring switches includes a use of Q-tag.

7.   The method of claim 1 wherein the step of providing a group identifier includes the step of providing a group name and password.

8.   The method of claim 1 wherein the step of allowing users to join the group according to the group identifier includes the step of allowing users to join the group according to a group name and password.

9.   The method of claim1 wherein the step of further configuring the network infrastructure includes the step of configuring the switch port that the user is connected to with a VLAN associated with the group.

10.   The method of claim1 wherein the step of dissolving the group includes revoking the group identifier.

11.   The method of claim 10 wherein the step of dissolving further includes the step of returning ports of switches supporting a VLAN associated with the dissolved group to the default state and removing all references to the VLAN associated with the dissolved group from the switches.

12.   A method for dynamically managing pools of IP addresses on a computer network with different characteristics and moving a user from pool to pool as required comprising the steps of:

1)   maintaining a registry of user records and associated sets of characteristics;

2)   further maintaining a registry of IP address pools with associated sets of characteristics;

3)   receiving a request from a user to switch from a first set of characteristics to a second set of characteristics;

4)   modifying the user record in the registry so that the set of characteristics associated with the user matches the second set of characteristics; and

5)   assigning an IP address to the user from the IP address pool associated with the second set of characteristics.

13.   The method of claim 12 wherein the pools of IP addresses include a pool of routable IP addresses.

14.   The method of claim 12 wherein the pools of IP addresses include a pool of non-routable IP addresses.

15.   The method of claim 12 wherein the step of receiving a request from a user includes a step of receiving a request for a set of characteristics including a routable IP address from a user whose first set of characteristic includes a non-routable IP address.

16.   The method of claims 12 wherein the step of modifying the user record includes the step of modifying the user record in the registry so that the set of characteristics including a non-routable IP address associated with the user is changed to a set of characteristics including a routable IP address.

17.   The method of claim 12 wherein the step of modifying the user record includes the step of changing the set of characteristics associated with the user from a set of characteristics including a non-routable IP address to a set of characteristics including a routable IP address.

18.   The method of claim 12 wherein the IP address pool associated with the second set of characteristics is a pool of routable IP addresses.

19.   The method of claim 12 wherein the step of maintaining a registry further comprises the step of mapping a user to a set of characteristics and mapping a set of characteristics to an address pool.

20.   A method for providing a routable IP address to a remote computer comprising the steps of:

1) providing a pool of routable IP addresses on a server;

2) receiving at the server a request from the remote computer to establish an IP tunnel between the remote computer and the server;

3) establishing an IP tunnel between the remote computer and the server;

5   4) further receiving a request from the remote computer through the tunnel for the routable IP address from the server; and

5) further providing the routable IP address to the remote computer from the server through the tunnel.

10   21. The method of claim 20 wherein the step of further providing the routable IP address comprises the step of providing a routable IP address by using DHCP.

22. The method of claim 20 wherein the step of receiving a request comprises the step of receiving a request through the Internet.

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23. The method of claim 20 further comprising the step of maintaining information associated with the provided routable IP address.

24. The method of claim 20 wherein the step of providing a pool of routable addresses comprises the step of registering the request.

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25. A computer readable medium containing the computer instructions for executing in a computer of the method of claim 1.

25   26. A computer readable medium containing the computer instructions for executing in a computer of the method of claim 12.

27. A computer readable medium containing the computer instructions for executing in a computer of the method of claim 20.

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28. A server to provide enhanced and secure access to a group of users initiated by a non-technically trained user on a computer network without the intervention of information systems personnel comprising:

    1)   a registration module to receive a request including a group identifier from the user;

    2)   a registration driver to register the user to access the group of users, assign the group of users and maintain registration information and state information of a network infrastructure associated with the group of users;

    3)   a module to assign VLAN tags based on registration status; and

    4)   a packet driver module to insert/remove VLAN tags from packets based on registration status.

29. The server of claim 28 wherein the VLAN tags are Q-tags of IEEE802.1Q .

30. The server of claim 28 wherein the state information of a network infrastructure is information on the switches that are IEEE802.1Q compliant.

31. The server of claim 28 wherein the module to construct VLAN tags comprises the SNMP module.

32. The server of claim 28 wherein the module further comprises a web based user interface.

33. The server of claim 28 wherein the group identifier includes a group name and password.

34. The server of claim 28 wherein the request includes the request for creating the group of users.

35. The server of claim 28 wherein the request includes the request for showing information associated with the group of users.

36. The server of claim 28 wherein the request includes the request for deleting the group of users.

37. A server for dynamically managing pools of IP addresses on a computer network with different characteristics and moving a user from pool to pool as required comprising:

    1)   a module to receive a request from a user to switch from a first set of characteristics to a second set of characteristics;

    2)   a registration driver to register the user and assign an IP address to the user from IP address pools associated with the second set of characteristics, and maintain a registry of user records, associated sets of characteristics and IP address pools with associated sets of characteristics; and

    3)   a DHCP module to issue an address switching request to the registration driver and receive IP addresses from the registration driver and allocate IP addresses to users.

38. The server of claim 37 wherein the pools of IP addresses include a pool of routable IP addresses.

39. The server of claim 37 wherein the pools of IP addresses include a pool of non-routable IP addresses.

40. The server of claim 37 wherein the module comprises a web based user interface to receive the request.

41. The server of claim 37 wherein the first set of characteristics is routable and the second set of characteristics is non-routable.

42.   The server of claim 37 wherein the second set of characteristics is routable and the first set of characteristics is non-routable.

5   43.   The server of claim 37 wherein the registration driver temporarily releases the IP address.

44.   A server for providing a routable IP address to a remote computer comprising:

1)   a module to receive a request from the remote compute through a
10   tunnel for the routable IP address;

2)   a registration driver to assign the routable IP address to the remote computer from a pool of routable IP addresses and establish an IP tunnel ;and

3)   a DHCP module to provide the routable IP address to the remote
15   computer through the tunnel.

45.   The server of claim 44 wherein the registration module comprises a web based user interface to receive the request.

20   46.   The server of claim 44 wherein the registration driver maintains information associated with the provided routable IP address.

47.   The server of claim 44 wherein the registration driver further comprises a pools of non-routable IP addresses.

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